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**Course:** Basics of R programming language for statistical analysis

**Instructor:** Marina FERENT [marinaferent@gmail.com]

**CHAPTER 2:** CONTROL STRUCTURES AND FUNCTIONS | Statistical measures

**Meeting 6:** FUNCTIONS| Challenge: Mode values

**Exercises**

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**PRODUCE Tasks:** [TIP: Exercises 3, 4 and 5 have same learning objective, but different application. Choose the one you find more interesting.]

1. rBasics\_Meeting6.r>line148>EXERCISE\_POINT\_2: Find the R defined function that computes the mode of a variable.

[Estimated time: 10 min]

1. rBasics\_Meeting6.r>line149>EXERCISE\_POINT\_3: Write a function that computes and interprets the mode of all the variables in a data frame.

[Estimated time: 20 min]

1. rBasics\_Meeting6.r>line150-151>EXERCISE\_POINT\_4: Write a function that computes and interprets the skewness of a variable. (Interpretation: Skew=0 => the distribution is symmetric; Skew<0 => the distribution has negative skewness; Skew>0=> the distribution has positive skewness)

[Estimated time: 20 min]

1. rBasics\_Meeting6.r>line152-153>EXERCISE\_POINT\_5: Write a function that computes and interprets the kurtosis of a variable. (Interpretation: Kurt=3 => normal distribution; Kurt<3=> platikurtic distribution; Kurt>3=> leptokurtic distribution)

[Estimated time: 20 min]

1. rBasics\_Meeting6.r>line158-159>EXERCISE\_POINT\_8: Write a function that computes and interprets the coefficient of variation of a variable. (Interpretation: CV>30% => the mean is not representative, the population is heterogenous or CV<30% => the mean is representative, the population is homogenous).

[Estimated time: 20 min]

**REPRODUCE Tasks:** [TIP: You must integrate the code we wrote in meetings 4 and 5 [Challenges] in a function. All exercises have same learning objective, but different application. Choose the one you find more interesting.]

1. rBasics\_Meeting6.r>line154>EXERCISE\_POINT\_6.1: Write a function that computes the mean of a variable.

[Estimated time: 15 min]

1. rBasics\_Meeting6.r>line155>EXERCISE\_POINT\_6.2: Write a function that computes the means of multiple variables in a data set and stores them in a data frame.

[Estimated time: 15 min]

1. rBasics\_Meeting6.r>line156>EXERCISE\_POINT\_7.1: Write a function that computes the median of a variable.

[Estimated time: 15 min]

1. rBasics\_Meeting6.r>line157>EXERCISE\_POINT\_7.2: Write a function that computes the medians of multiple variables in a data set and stores them in a data frame.

[Estimated time: 15 min]

**DEBUG tasks:**

1. rBasics\_Meeting6.r>line90>EXERCISE\_POINT\_1: Why is it that the following code works the same way? (no error)

lungimeVector=function(x)

if (length(x)<10){

print("short vector")

} else {

print("long vector")

}

[Estimated time: 15 min]

**COMMENT Tasks:**

1. rBasics\_Meeting6.r>line160>EXERCISE\_POINT\_9: Comment EXERCISE 3 and 4 in lines 126-146.

[Estimated time: 20 min]